

REMARKS

This paper is submitted in reply to the Office Action dated June 9, 2004, within the three-month period for response. Reconsideration and allowance of all pending claims are respectfully requested.

In the subject Office Action, the specification was objected to for improperly incorporating subject matter by reference, and claims 1-5, 9-15, and 18-20 were rejected under the judicially created doctrine of obviousness-type double patenting over claims 7 and 26 of copending Application No. 09/694,586 (the '586 Application) in view of U.S. Patent No. 6,108,699 to Moiin and U.S. Patent No. 6,119,163 to Monteiro et al. In addition, claims 1-6, 9-15, and 18-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,108,699 to Moiin in view of Monteiro et al. The Examiner did indicate, however, that claims 7-8 and 16-17 were directed to patentable subject matter.

Applicants respectfully traverse the Examiner's rejections to the extent that they are maintained.

Turning first to the objection to the specification, the Examiner will note that Applicants have amended the specification to insert the serial number as required by the Examiner. Applicants respectfully submit that the incorporation by reference is now proper, and withdrawal of the objection is respectfully requested.

Next, turning to the provisional double patenting rejection, Applicants continue to traverse the Examiner's provisional rejection on the basis that the claims at issue in the two applications are not obvious in view of one another. Nonetheless, given that the rejection is provisional, and further given that a notice of appeal has been filed in the '586 Application, Applicants respectfully decline to submit a terminal disclaimer at this time. It is Applicants understanding that, should all pending claims in this application be found otherwise allowable, and should the '586 Application still be pending at that time, the

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appropriate action would be for the Examiner to allow this application and issue a non-provisional double patenting rejection in the '586 Application. *See* MPEP 804.I.B.

Next, turning to the art-based rejections, the Examiner has modified the prior rejections based upon Moiin to add a secondary reference to Monteiro.

As Applicants noted in the prior Response, each of the independent claims at issue (claims 1, 9, 18 and 19) recites, at least in part, the concept of dynamically modifying a fragmentation size cluster communication parameter used in the communication of messages in a clustered computer system, where a "fragmentation size cluster communication parameter" is defined in the context of the invention as "the maximum size packet size, also referred to as a maximum transmission unit (MTU) that may be used for cluster messages." (Application, page 15, lines 15-17). Put another way, a fragmentation size cluster communication parameter defines how a clustering message will be broken into multiple packets for transmission over a communications network.

The Examiner now admits that Moiin does not explicitly disclose a fragmentation size, and instead relies on Monteiro, and specifically column 7, lines 7-37 thereof, for allegedly disclosing modifying a fragmentation size. However, Monteiro merely discloses the transmission of data packets with variable packet sizes, e.g., to account for variable compression algorithms or to "accommodate changes in network conditions." (Monteiro, col. 7, lines 18-20).

The disclosure of variable packet sizes in Monteiro, however, adds little to the Examiner's rejections. In particular, each of the rejected independent claims recites the concept of dynamically modifying a "fragmentation size cluster communication parameter" in a clustered computer system. As noted in the prior Response, cluster communication parameters define how messages are sent and received by nodes in a cluster, and as a result, changing communication parameters on different nodes in an active clustering environment is not simply a routine matter. It is important for each node in a cluster to have a consistent set of communication parameters to ensure that

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communications originating from one node will be properly received by other nodes. Put another way, without proper coordination among nodes, a risk exists that communication parameters that differ on different nodes of a cluster may cause communication errors or otherwise adversely impact system performance.

Applicants have consistently asserted that Moiin does not disclose or suggest any dynamic modification of a cluster communication parameter in a clustered computer system. Instead, Moiin discloses, at most, the modification of cluster membership information, e.g., the number of nodes in a cluster (referred to in Moiin as the "cluster size"). Moiin does not, however, disclose the dynamic modification of any parameter that would control the underlying protocols used for communicating messages between nodes.

Given that Moiin is completely silent with respect to the concept of dynamically modifying any cluster communication parameter, Applicants submit that Moiin cannot be interpreted to disclose or suggest the dynamic modification of any communication parameter related to fragmentation size. Moiin, which does not even mention the communication parameters used to transmit messages between cluster nodes, simply fails to appreciate any of the problems that arise with respect to controlling these underlying communication parameters in an active clustering environment.

Furthermore, each of the rejected independent claims is specifically directed to coordinating the activities of multiple nodes to ensure a coordinated modification to the fragmentation size cluster communication parameter, specifically by deferring the processing of a fragmentation size change until receipt of an acknowledgment message for at least one unacknowledged message. By doing so, a clustered computer system is permitted to reach a state in which each node is able to perform the fragmentation size change without the concern that another node will not also make the same change, thus ensuring a consistent changeover throughout the cluster. Moiin, on the other hand, merely discloses that each active node in a cluster is able to broadcast a reconfiguration message such that any give node is able to determine cluster membership by monitoring

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the messages received from other nodes. The reference does not disclose the claimed deferral in the processing of a fragmentation size change until receipt of an acknowledgment message, much less any other dynamic changeover of any communication-related parameter in an active clustering environment.

Monteiro adds little, if anything, to the rejection. As noted above, Monteiro discloses the capability of dynamically modifying packet sizes. However, it is important to note that Monteiro does not disclose any mechanism for coordinating any change to packet size among multiple computers. Indeed, while Monteiro does disclose a clustering environment, the packet size parameter described at col. 7, lines 7-37 is used to control the communication of audio streams from individual media servers to end users, and not between the various nodes in a cluster. As such, there is no need in Monteiro to coordinate any parameter changes between multiple nodes, and indeed, no such coordination is disclosed or suggested by Monteiro. Applicants respectfully submit, therefore, that one of ordinary skill in the art would not look to Monteiro to disclose any sort of mechanism suitable for coordinating a change in a fragmentation size parameter in a clustered computer environment.

It is important to note that Applicants are not claiming the concept of fragmentation size in the abstract. The rejected independent claims are instead directed to a coordinated mechanism for ensuring a consistent modification to a fragmentation size cluster communication parameter among multiple nodes in a cluster. Neither Moiin nor Monteiro, alone or in combination, discloses or suggests this specifically claimed mechanism.

Indeed, both references fail to even disclose the dynamic modification of any parameter that can fairly be considered analogous to a "cluster communication parameter", *i.e.*, a parameter that is related to both clustering and communication. Moiin arguably discloses a cluster-related parameter (cluster size); however, this parameter is not communication-related. Conversely, Monteiro arguably discloses a communication-

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related parameter (packet size), but given its application in communicating with end users or clients, the parameter is not cluster-related. Given these shortcomings, Applicants respectfully submit that one of ordinary skill in the art would not be motivated to combine the cited references in the manner suggested by the Examiner, and as a result, the rejected independent claims (claims 1, 9, 18 and 19) are non-obvious over these references. Reconsideration and allowance of these claims, as well as of claims 2-6, 10-15 and 20 which depend therefrom, are therefore respectfully requested.

As a final matter, with respect to independent claim 18, as well as dependent claims 2, 11, these claims additionally recite the concepts of sending a sync message from a source node to a plurality of target nodes, and waiting for an acknowledgment message for the sync message from each of the plurality of target nodes. Applicants can find no disclosure in either Moiin or Monteiro that corresponds to the claimed sync messages. As noted above, Monteiro does not address coordinating parameter changes between nodes in a cluster. Furthermore, Moiin discloses at most the communication of "reconfiguration messages" between nodes in a cluster to modify cluster membership. Applicants submit that these reconfiguration messages are entirely irrelevant to the concept of a "sync message", and as such, fail to disclose or suggest the use of sync messages as recited in claims 2, 11 and 18. Reconsideration and allowance of claims 2, 11 and 18 are therefore respectfully requested for this additional reason.

In summary, Applicants respectfully submit that all pending claims are novel and non-obvious over the prior art of record. Reconsideration and allowance of all pending claims are therefore respectfully requested. If the Examiner has any questions regarding the foregoing, or which might otherwise further this case onto allowance, the Examiner may contact the undersigned at (513) 241-2324. Moreover, if any other charges or credits

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are necessary to complete this communication, please apply them to Deposit Account
23-3000.

9 SEP 2004

Date

Respectfully submitted,



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